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EXAMINER

KASTURE, DNYANESH G

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3746

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/534,178	Applicant(s) BECK, JOSEF	
	Examiner DNYANESH KASTURE	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The previously made objections to the drawings are hereby withdrawn in light of applicant's amendments to the specification submitted on June 9, 2008.

Claim Objections

2. The previously made objection to claim 1 is hereby withdrawn in light of applicant's amendments to the specification submitted on June 9, 2008.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 8-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. In Re claim 8, the phrase: “..the cylinder bores having openings towards and end side..” is indefinite because it is not clear what the applicant is claiming.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

FIG. 2

recess

BDC

31

44

46

22

68

70

64

48

TDC

66

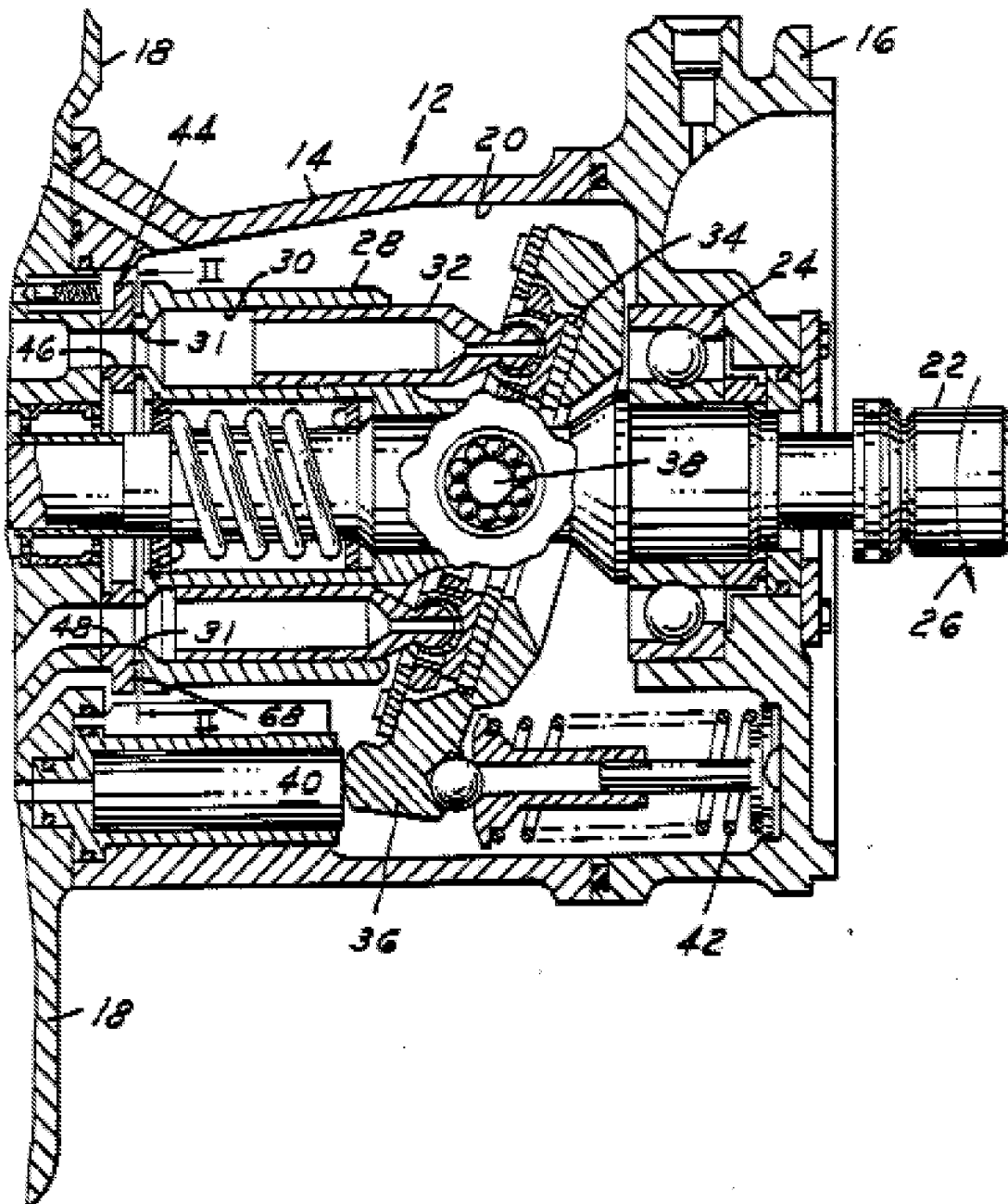
26

104

4

segment

FIG.1B



8. In Re claim 1, with reference to figures 1B and 2 depicted above, Tovey discloses a control plate (44) for an axial piston machine (12) having at least two control openings (46), (48) by means of which cylinder bores (30) of a cylinder drum (28) rotatably mounted (on shaft (22)) in housing (14) are alternately connected, on rotation of the cylinder drum (28), to a high pressure connection (48) and a low pressure connection (46) a through opening (66) formed in the control plate wherein:

- the radially inner edge (depicted by label 66 pointer) of the control plate (44) is designed as a centering surface around shaft (22)
- the centering surface comprising plurality (2) of partial surfaces formed on segments (depicted above in Figure 2) of the inner edge of the control plate (44) which extend radially inward into the through opening (66) as depicted in Figure 2, and are separated by recesses as depicted
- both recesses are next to the centering surface (see figures in the "Response to arguments" section) and are capable of receiving a locking element.

9. In Re claim 3, Figure 2 of Tovey depicts the thickness of the segments is substantially the same as the depth of the recesses, and they also have a finite width. The recess transforms into a gap between the shaft (22) and the radially inner edge (depicted by label 66 pointer) after assembly of the machine.

10. In Re claim 4 and 12, Figure 1B of Tovey depicts a radial edge (lip that is pointed to by the arrow associated with label (44)). The lip surrounds the plate around the outer

edge and therefore is connected to the high-pressure connection and the low-pressure connection in the region of all the control openings.

11. In Re claim 6, Figure 2 of Tovey depicts the thickness of the segment is less than the thickness of majority of the plate.

12. In Re claim 7, Figure 2 of Tovey discloses kidney shaped control openings.

13. In Re claim 8, with reference to figures 1B and 2 depicted above, Tovey discloses an axial piston machine (12) having a cylinder drum (28) which is rotatably mounted in a housing (14) and in which are made cylinder bores (30) in which pistons (32) are axially displaceably arranged, the cylinder bores (30) having openings (31) towards and end side of the cylinder drum (28) are alternately in connection with a high-pressure connection (48) and a low-pressure connection (46) via at least two control openings (46), (48) of a control plate (44), the control plate (44) having through opening (66) wherein:

- the radially inner edge (depicted by label 66 pointer) of the control plate (44) is designed as a centering surface around shaft (22)
- the centering surface comprising plurality (2) of partial surfaces formed on segments (depicted above in Figure 2) of the inner edge of the control plate (44) which extend radially inward into the through opening (66) as depicted in Figure 2, and are separated by recesses as depicted

14. In Re claim 10, Tovey discloses a cylinder drum (28) is mounted on a shaft (22), the shaft (22) being mounted in the housing (14) on the side of the control plate (44) by virtue of screw fastening (depicted in Figure 1A), and the control plate (44) is concentric with the shaft (22) which in turn is concentric with bearing race of roller bearing (24). The centering surface (segment) surrounds the shaft (22) and is also concentric.

15. In Re claim 11, the radial extend of the recess is greater than the radial extend of the segment as depicted in Figure 2 of Tovey.

16. In Re claim 13, Tovey depicts in Figure 1A that the interior of the control plate communicates with the space surrounding shaft (22) which further communicates with passageways (grooves) in the region on the side of the control plate facing away from the cylinder drum, the passageways further extending through elements (58) and (60) to passage leading back to the swash plate chamber (outside of the control plate) in the region of reference label "II" and "68", thereby connecting the inner volume to the outer volume.

17. In Re claim 14, Tovey depicts the disc shape of the control plate in Figure 2, therefore the end side of the cylinder drum would also have to be disc shaped because the end side of the cylinder makes full surface contact with the control plate.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tovey (US Patent 4,757,743 A).

20. In Re claim 2, Tovey as applied to claim 1 discloses all the claimed limitations except for the centering surface is composed of three partial surfaces. Tovey only discloses 2 segments each with a partial surface. It would have been an obvious matter of design choice to have three or more segments on the radially inner edge of the control plate, each with a partial surface, since applicant has not disclosed that having three partial surfaces solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with two partial surfaces.

21. In Re claim 9, Tovey as applied to claim 8 discloses all the claimed limitations except for the centering surface being composed of three partial surfaces. Tovey only discloses 2 segments each with a partial surface. It would have been an obvious matter of design choice to have three or more segments on the radially inner edge of the control plate, each with a partial surface, since applicant has not disclosed that having

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three partial surfaces solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with two partial surfaces.

22. Alternatively, Claims 1 – 4 and 6 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tovey (US Patent 4,757,743 A) and in view of Borcharding et al (US Patent 6,257,767 B1)

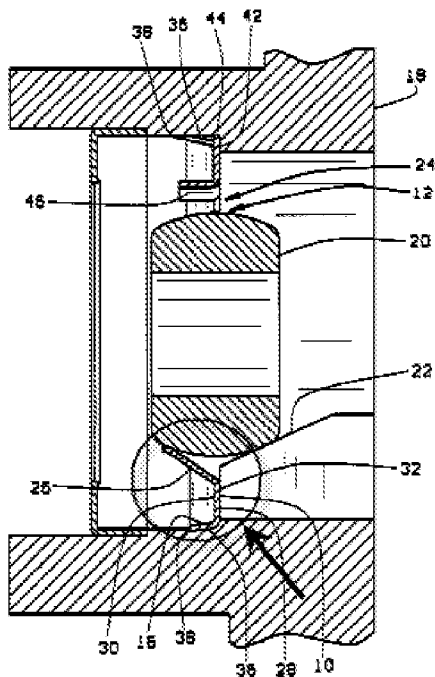


FIG. 4

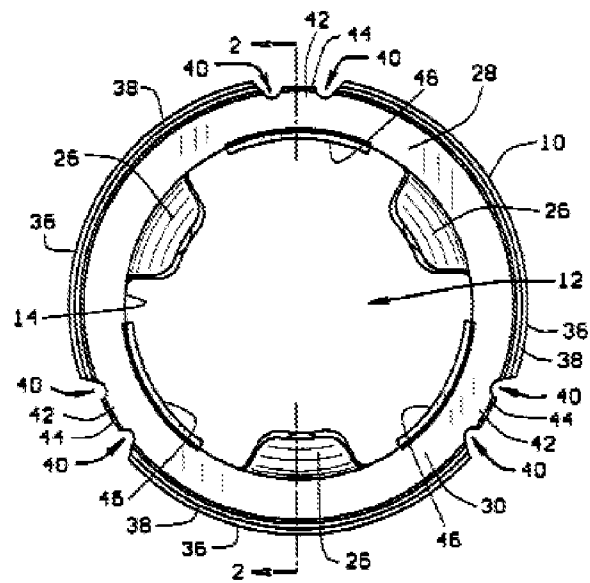


FIG. 1

23. In Re claim 1 and 8, Tovey discloses all the claimed limitations except it does not explicitly disclose a centering body formed on the housing which is abutted against by the centering surface of the control plate

24. Nevertheless, Borcharding et al discloses a control plate (32) which seats against the surface (14) of the housing cover. The plate having radial inner edges (26) with a surface that is a centering surface as stated in Column 1, Line 11: "...plurality of radially extending tabs centered in gaps in the peripheral edge". The inner edges (26) abut against a bearing (20) that is on the housing seat (22).

25. It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the port plate assembly of Tovey to incorporate the bearing (on the housing seat) into the central opening in the control plate that surrounds the shaft (the bearing could be the element surrounding the shaft that is not part of the control plate) where the radially inner edge abuts the bearing as taught by Borcharding et al as a suitable design choice that supports a rotating shaft as stated in Column 1, Line 25 of Borcharding et al.

26. In Re claims 2 – 4, 6 – 7 and 9 – 14, Tovey as discussed above discloses all the claimed limitations.

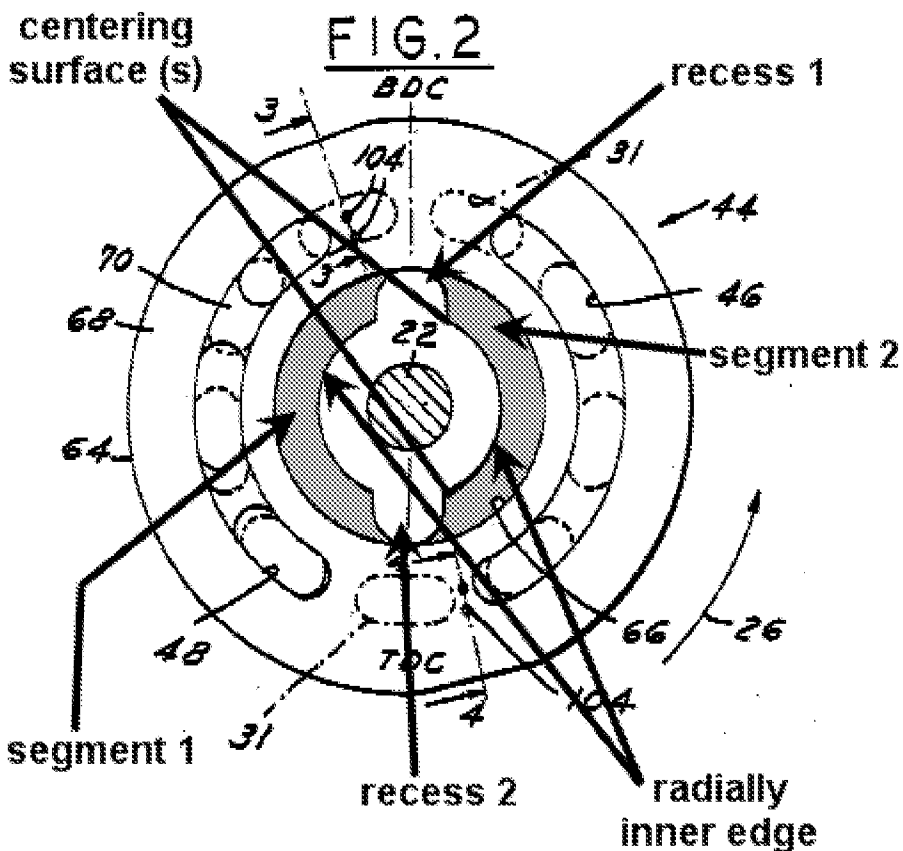
Response to Arguments

27. Applicant has amended claim 1 to include the limitations of Claim 5 based on examiners indication of allowability in the previous office action. The phrase "in order to receive a rotation-locking element" is functional language, therefore the locking element does not have to be present in the prior art reference (Tovey). Since Tovey has the recess as claimed, it does anticipate the claim and therefore previously made indication of allowability is hereby withdrawn. Since the withdrawal was not necessitated by applicant's amendment, this office action remains NON-final.

28. Applicant has argued that Tovey does not disclose the radially inner edge with a centering surface and the specification does not state the centering function. Applicant further argues that the "edge" of Tovey does not have a plurality of partial surfaces on segments. Applicant additionally argues that the element surrounding the shaft does not form part of the control plate and that it is a separate member with no mention of a centering function. Applicant also argues that a separate member is used for interconnecting the control plate with a centering body. Applicant finally argues that the prior art control plate is centered in its outer circumference.

29. Applicant's arguments have been fully considered but they are not persuasive for the following reasons:

- Figure 2 of Tovey is a cross section of the apparatus, and the centering surface is perpendicular to the plane of this cross section which is why it is not visible in this view even though the radially inner edge is visible. Figure 2 of Tovey has been additionally annotated below.

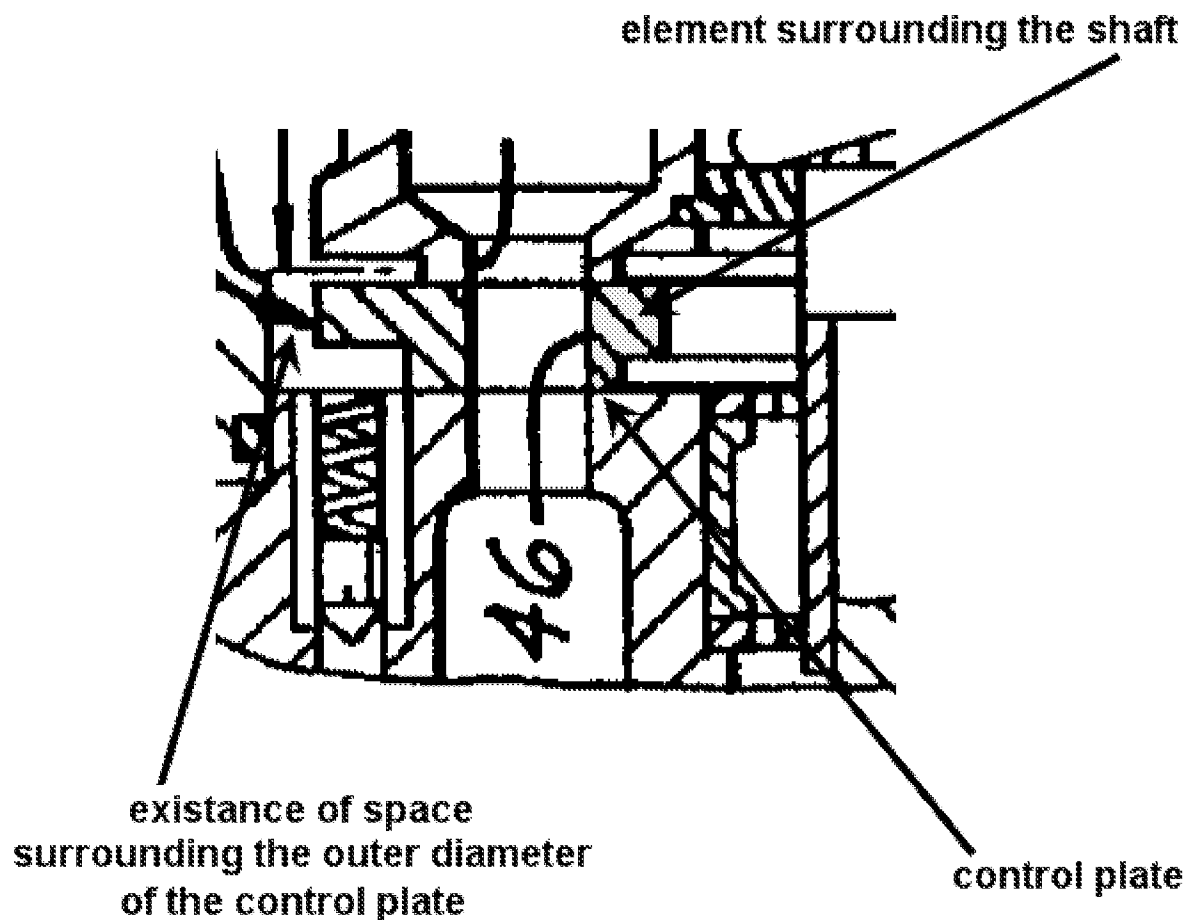


Note the arcuate projection of the centering surface between ends of the two label lines, once again the centering surface is perpendicular to the plane of the figure. The shaded part of the figure is a protrusion that is part of the control plate.

- The specification of Tovey does not explicitly state the centering function however, MPEP 2114 [R-1] states that while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. Since Claim 1 is an apparatus claim (control plate), the prior art does not explicitly need to state the centering function.

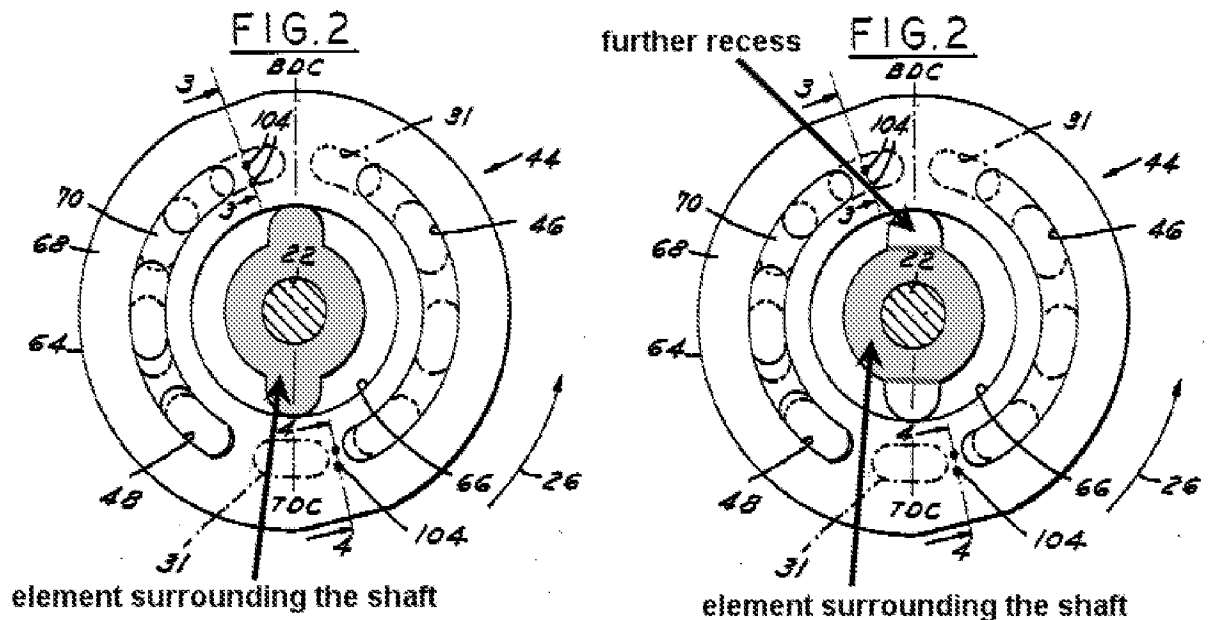
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- Tovey discloses at least 2 partial surfaces, one of which is annotated above on segment 2, the other is symmetrically on the opposite segment 1.
- With reference to the element surrounding the shaft not being part of the control plate, see annotated blowup of Figure 1B below.



As seen by the crossing section lines, the element surrounding the shaft is part of the control plate and therefore there is no "separate" member interconnecting the control plate with a centering body.

The element surrounding the shaft (which mates with the centering surface) probably is separate from the shaft and looks like one of the two configurations depicted below by the shaded portion:



In the Figure on the left, the element surrounding the shaft would have to be fixed to the housing otherwise the projections will make the control plate rotate. In the Figure on the right, there is a further recess (at the centering surface) to receive a separate locking element.

- The above blowup depiction of Figure 1B also suggests that due to the existence of the gap around the outside diameter of the control plate, the control plate is not centered at its outer circumference.

Conclusion

As discussed above in the Response to Applicant's arguments section, this action is NON-FINAL.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DNYANESH KASTURE whose telephone number is (571)270-3928. The examiner can normally be reached on Mon-Fri, 9:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272 - 7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

DGK

